



TEXAS DEPARTMENT OF HEALTH  
AUSTIN TEXAS  
INTER-OFFICE

**TO:** WIC Regional Directors  
WIC Local Agency Directors

**FROM:** Barbara Keir  
Public Health Nutrition and Education

**Original Signed**

**DATE:** February 14, 2003

**SUBJECT:** Registered Dietitian Formula Conference Call, Tuesday, February 18, 2003

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The next formula conference call for Registered Dietitians is scheduled for February 18, 2003. Allergies and food intolerances will continue to be our topic, as agreed upon at the last conference call. Attached is a bibliography of articles that will be used in the discussion, a glossary of allergy terms, and an overview of formulas used for allergies. Unfortunately, we are unable to send out a mass mailing or electronic file of the articles due to copyright restrictions. Roxanne Robison requested that actual case studies be submitted to her for discussion. Please send in your case studies as soon as possible so that we can discuss real life situations for formula approval.

Case studies can be emailed to Ms. Robison, Children with Special Health Care Needs Nutrition Consultant, at [Roxanne.Robison@tdh.state.tx.us](mailto:Roxanne.Robison@tdh.state.tx.us) or called in to her at 512/458-7111 extension 3495.

Attachments (3)

## Overview of SHS Products

Product Name & Code	CFR Category	Product Description	Indications For Use	Protein Source	Carbohydrate Source	Fat Source	Caloric Distribution	Caloric Density	Physical Form & Packaging
Neocate Infant Formula 10804	Exempt Infant Formula	Hypoallergenic. Complete nutritional support for infants with cow milk allergy and multiple food protein intolerance.	Infant formula for the dietary management of: cow milk allergy; Multiple food protein intolerance; Short bowel syndrome; Eosinophilic esophagitis; Gastroesophageal reflux; Milk protein induced colitis; Transition from parenteral to Enteral nutrition	100% L- amino acids	Corn syrup solids	Hybrid safflower oil, refined vegetable oils (coconut and soy)  MCT 5% LCT 95%	Prot-12%  CHO – 47%  Fat- 41%	20 kcal/fl oz  0.67 kcals/mL	Powder 4x400 g resealable cans
Neocate One + Powder 11047	Medical Food	An elemental medical food. Complete nutritional support for children with severe cow milk allergy, multiple food protein intolerance or medical conditions where an elemental diet is indicated	Cow milk protein intolerance; multiple food protein intolerance; Gastroesophageal reflux; other medical conditions where an elemental diet is indicated	100% L- amino acids	Corn syrup solids	Fractionated coconut oil, canola oil, hybrid safflower oil  MCT 35% LCT 65%	Prot-10%  CHO –58%  Fat-32%	30 kcal/fl oz 400 kcal/100g	Powder 10 x 100 g packets

## Overview of SHS Products

Neocate Junior 11790	Medical Food	An elemental medical food. Complete nutritional support for children with gastrointestinal impairment due to milk protein sensitivity or other medical conditions affecting the GI tract	GI tract impairment; Malabsorption; multiple food protein intolerance; cow milk protein intolerance; other medical conditions where an elemental diet is indicated	100% L-amino acids	Corn syrup solids	Fractionated coconut oil, canola oil, hybrid safflower oil  MCT 35% LCT 65%	Prot-12%  CHO – 47%  Fat-41%	30 kcal/fl oz 460 kcal/100g	Powder 4 x 400 g (14 oz) resealable can
Pediatric EO28 11050	Medical Food	Pediatric amino acid-based ready-to-feed liquid for children over 1 year of age. Nutritionally complete, including vitamins, minerals, and trace elements	GI tract impairment; Malabsorption; Gastroesophageal reflux; other conditions where an elemental diet is indicated	100% L-amino acids	Corn syrup solids, sucrose	Fractionated coconut oil, canola oil, safflower oil  MCT 35% LCT 65%	Prot-10% CHO – 58% Fat-32%	30 kcal/oz. 1 kcal/mL	Liquid 8 fl oz (237 mL) tetra paks
EO28 Extra (Flavored) 10024	Medical Food	Orange -flavor powdered elemental formula consisting of essential and non-essential amino acids vitamins, minerals, and trace elements.	GI tract impairment; Malabsorption; Gastroesophageal reflux; Other conditions where an elemental diet is indicated	100% L-amino acids	Dried glucose syrup	Fractionated coconut oil, canola oil, hybrid safflower oil  MCT 35% LCT 65%	CHO 51.5% Fat 36.8% Pro-11.7%	25.5 kcal/oz 0.85 kcal/mL 427 kcal/100g	Powder 10 x 100 g

## Overview of SHS Products

Pepdite One + Unflavored 10036	Medical Food	A semi-elemental, non-dairy medical food containing low molecular weight peptides and free amino acids. Complete nutritional support for children with GI impairment where a hydrolyzed, non-dairy formula is indicated	GI tract impairment; Malabsorption; Whole protein intolerance; Other medical conditions where an elemental diet is indicated	56% hydrolyzed protein (pork/soy) and 44% L- amino acids	Corn syrup solids	Fractionated coconut oil, canola oil hybrid safflower oil  MCT 35% LCT 65%	Prot- 12%  CHO 42%  Fat- 46%	30 kcal/fl oz  470 kcal/100 g	Powder 15 x 51 g packets
Pepdite One + (Flavored) 11780	Medical Food	A semi-elemental, non-dairy medical food containing low molecular weight peptides and free amino acids. Complete nutritional support for children with GI impairment where a hydrolyzed, non-dairy formula is indicated. Banana flavored	GI tract impairment Malabsorption; Whole Protein intolerance; Other medical conditions Where an elemental diet is indicated	56% hydrolyzed protein (pork/soy) and 44% L- amino acids	Corn syrup solids	Fractionated coconut oil, canola oil hybrid safflower oil  MCT 35% LCT 65%	Prot- 12%  CHO 42%  Fat- 46%	30 kcal/fl oz  470 kcal/100 g	Powder 15 x 51 g packets

## Glossary of Allergy Terms

**AAAI:** American Academy of Allergy; Asthma and Immunology

**Airway wall “remodeling”:** structural changes that are unlikely to be reversible, resulting from continued inflammation observed in chronic asthma. Permanent changes include continued loss of epithelial cell, deposition of subbasement membrane collagen, and increased muscle mass and blood vessels.

**Allergen:** the source of an allergy-producing substance, the allergy-producing substance itself, or one or more of the specific proteins that make up the substance and provoke the immune response, including IgE antibodies. They are often common usually harmless substances such as pollen, mold spores, animal dander, dust, foods, insect venoms, and drugs.

**Allergic diseases:** represent the clinical manifestations of adverse immune responses (including IgE responses), following repeated contact with usually harmless substances such as pollen, mold spores, animal dander, dust, foods, insect venoms, and drugs; include diseases of the atopic diathesis as well as diseases which may have an allergic component.

**Allergy:** an acquired potential to develop immunologically mediated adverse reactions to normally innocuous substances upon re-exposure to the sensitizing allergen (including IgE antibody responses to allergens), causing the release of inflammatory mediators.

**Anaphylactoid reaction:** an immediate systemic reaction that mimics anaphylaxis but is *not* an IgE-mediated response.

**Anaphylaxis:** is the most severe form of allergic reaction. It is a rapid, immune-mediated, systemic reaction to allergens to which the patient has been previously exposed. It has many etiologies, resulting from immune-mediated (i.e., IgE-mediated) rapid release of potent mediators from tissue mast cells and peripheral blood basophils. The reaction occurs rapidly and often dramatically, and is usually unanticipated. Signs and symptoms arise systemically and may include faintness, syncope, severe difficulty breathing, and throat closing. Symptoms generally start within 15 to 30 minutes from exposure to allergen, occasionally begin after 1 hour, and rarely occur hours later. Other reactions (i.e., anaphylactoid reactions) can mimic anaphylaxis. Anaphylaxis is always a medical emergency! *See also exercise-induced anaphylaxis, anaphylactoid reaction, and idiopathic anaphylactic/anaphylactoid reactions.*

**Angioedema:** swelling in the deep cutaneous layer, but the skin may appear normal.

**Antihistamines:** drugs that inhibit allergy symptoms by blocking the actions of histamine at the H1 receptor. Older sedating antihistamines cause drowsiness and/or loss of concentration and may affect psychomotor performance. Nonsedating antihistamines have poor penetration of the CNS, resulting in no sedative or psychomotor adverse effects.

**Asthma:** is a chronic inflammatory disease of the airways characterized by airway obstruction, which is at least partially reversible with or without medication, and manifests increased bronchial responsiveness to a variety of stimuli.

**Atopic dermatitis:** is a chronic or recurrent atopic inflammatory skin disease that usually begins in the first few years of life. It is often the initial clinical manifestation of a atopic predisposition, with many children later developing asthma and/or allergic rhinitis.

**Atopy:** the genetic tendency to develop the “classical” allergic diseases, namely, allergic rhinitis, asthma, and atopic dermatitis. Atopy is typically associated with a genetically determined capacity to mount IgE responses to common allergens, especially inhaled allergens and food allergens.

**Beta2-agonists:** drugs that are used in the treatment of asthma for short-acting quick relief, long-term 12-hour control, and for preventing exercise-induced bronchospasm. The bronchial smooth muscle relaxes in response to beta2-adrenergic receptor stimulation.

**Chlorofluorocarbon (CFC):** propellant used in MDIs to deliver inhaled asthma medications. Other propellants (HFA-134) will be replacing CFCs in the future because CFCs deplete the ozone layer.

**Conjunctivitis:** a group of ocular disorders that result in inflammation of the conjunctiva. May be of allergic or nonallergic origin.

**Contact dermatitis:** refers to a broad range of reactions resulting from the direct contact of an exogenous agent (allergen or irritant) with the surface of the skin.

**Corticosteroids:** medications related to cortisone with anti-inflammatory effects useful in many allergic conditions. Newer preparations for lung, nasal, and skin use minimize risk for side effects.

**Cromolyn sodium/Nedocromal sodium:** are topical nonsteroid anti-inflammatory agents.

**DBPCFC:** double-blind, placebo-controlled food challenge. Considered the “gold standard” for diagnosing food allergies.

**Decongestants:** are sympathomimetic drugs that relieve symptoms of nasal congestion or blockage by constricting the capacitance vessels in the turbinates.

**Desensitization:** a medical procedure utilized to reduce or eliminate sensitivity to certain drugs. Desensitization for IgE-mediated drug reactions is achieved by administering progressive doses of the drug until a full therapeutic dose is clinically tolerated. Indicated for patient with established drug allergy where no substitute for the responsible drug is available and treatment is essential. Desensitization for non-IgE-mediated drug reactions is successful for aspirin and NSAIDs.

**Domeboro's solution:** calcium acetate, aluminum sulfate astringent used to dry oozing dermatitis.

**Dry-powder inhaler (DPI):** delivery mechanism without propellant for inhaled asthma medications that are in powdered form.

**Early phase reaction (immediate hypersensitivity reaction):** an immunological reaction that occurs within minutes of subsequent exposure of the IgE antibody to the allergen in sensitized individuals. With repeat exposure of allergen, multiple IgE-FcεR complexes are cross-linked resulting in immediate hypersensitivity reactions (i.e., mast cells degranulate releasing histamine, leukotrienes, cytokines, and proteases).

**Eczema:** is an inflammatory disease of the skin with lesions that can be erythematous, edematous, popular, crusting, lichenified, scaling, itching, burning and sometimes skin discoloration can occur.

**Elimination diet:** a restricted diet used for food allergy for a limited period of time (10 to 14 days) to evaluate the patient. Specific foods may be eliminated (e.g., targeted elimination diet) or basic/severe elimination diet protocols may be utilized in more complicated situations.

**Epicutaneous (patch) testing:** a form of allergy skin testing that identifies or confirms suspected T-cell-mediated, delayed hypersensitivity, contact allergens in contact eczematous dermatitis.

**Exercise-induced anaphylactic/anaphylactoid reactions:** a generalized reaction with initial symptoms of fatigue, diffuse warmth, pruritus, erythema, urticaria, and/or wheezing occurring during or immediately following exercise. Reactions may be associated with prior ingestion of food and/or analgesics.

**Exercise-induced bronchospasm (EIB):** Smooth muscle contraction in the lungs used by a loss of heat, water, or both from the airways during exercise due to increased ventilation and inhalation of cool, dry air relative to the air within the lungs.

**Food Allergy:** a group of disorders characterized by immunologic responses to specific food proteins. Any food may cause a food allergic reaction. The prevalence is greatest in the first few years of life and declines over the first decade.

**Hepa-filters:** high efficiency particulate air filter.

**Idiopathic anaphylactic/anaphylactoid reactions:** a generalized reaction that is diagnosed by exclusion when neither a causative allergen nor physical factor can be identified.

**Immediate local reaction:** describes an insect sting reaction and is sometimes referred to as the "normal reaction." Presents as pain, erythema, itching, and swelling at the sting site. It is a transient response that usually disappears within several hours.

**In Vitro:** refers to a lab test (e.g., ELISA) to diagnose allergens that a person is sensitized to.

**Ipratropium bromide:** used as adjunct therapy to bronchodilators in the treatment of acute asthma exacerbations. Effects are primarily due to anticholinergic action on bronchial smooth muscle. Also used to control rhinorrhea in a patient with nonallergic rhinitis.

**Large local reaction:** describes an insect sting reaction that displays extensive swelling and erythema, extending from the sting site over a large area and often involves most of an extremity. Swelling often peaks within 48 hours and may last as long as 7 to 10 days. Occasionally, fatigue, low-grade fever, and nausea accompany the reaction.

**Late phase reaction:** an immunological reaction that begins 2 to 4 hours following exposure to allergen and can last for 24 hours before subsiding. Inflammatory leukocytes (e.g., neutrophils, basophils, eosinophils) are involved but the late response is primarily mediated by eosinophils in atopic individuals. These inflammatory cells release cytokines and chemokines during the response.

**Latex allergy:** an allergic response to the proteins in natural latex or rubber or to the additives used in processing latex.

**Leukotriene modifiers:** a group of drugs that may be used as long-term control medications for the treatment of mild persistent asthma. May be considered as alternative therapy to low doses of inhaled corticosteroids in mild persistent asthma, but the position of leukotriene modifiers in therapy has not been fully established.

**Long-term control medications:** drugs that are taken daily on a long-term basis to achieve and maintain control of persistent asthma. Examples include inhaled corticosteroids, long-acting bronchodilators (e.g., beta2 agonists), plus other long-term control medications (e.g., methylxanthines (theophylline), leukotriene pathway modifiers).

**Mast cell stabilizer:** a group of drugs that exhibit anti-inflammatory properties (e.g., cromolyn sodium, nedocromil sodium). The mechanism of action of these drugs remains uncertain.

**Metered-dose inhaler (MDI):** propellant-driven delivery mechanism for inhalation of asthma medications.

**MMR:** measles, mumps, and rubella vaccine.

**NIAID:** National Institute of Allergy and Infectious Diseases.

**Nonallergic (or irritant) reaction:** reactions that do not involve the immune system but can be important cofactors for developing allergic reactions.



**Oral allergy syndrome:** a self-limiting condition associated with the ingestion of fresh fruits and vegetables that does not display symptoms of throat closing; appears to be a cross sensitivity to pollens that the individual is allergic to.

**Otitis media:** an acute or chronic inflammation of the middle ear.

**Patch testing:** see epicutaneous (patch) testing.

**Peak expiratory flow (PEF):** a measurement of pulmonary function that is not as sensitive as FEV for diagnosing airflow obstruction; primarily a measurement of large airway function. Peak flow meters are designed as monitoring, not diagnostic tools.

**Prick/puncture test:** is a test used to confirm hypersensitivity to a wide variety of allergens, the most convenient and specific method for detecting IgE antibodies.

**Primary prevention:** focuses on blocking sensitization and development of IgE-mediated response.

**Quick-relief medications:** a group of drugs that give prompt relief of bronchoconstriction and accompanying acute asthma symptoms: coughing, wheezing, shortness of breath or rapid breathing, chest tightness. Examples including short acting beta2-agonists and anticholinergics.

**Rhinitis:** inflammation of the mucous membranes of the nose with symptoms of sneezing, itching, nasal discharge, and congestion. The etiology can be allergic, nonallergic, or both. Seasonal allergic rhinitis is an IgE-mediated reaction of the nasal mucosa to one or more seasonal allergens. Perennial allergic rhinitis is an IgE-mediated reaction to allergens that show little or no seasonal variation. It is persistent, chronic, and generally less severe than seasonal.

**Rhinosinusitis:** is an inflammation of the paranasal sinuses that occurs with rhinitis. It is rarely appears in the absence of nasal inflammation, commonly occurring in patients with perennial allergic and nonallergic rhinitis and in patients with moderate to severe asthma. Acute rhinosinusitis is a common infection that lasts for up to 3 weeks and often follows a viral upper respiratory tract infection. Suspect if symptoms worsen after 5 days or persist after 7 days. *Recurrent acute rhinosinusitis* is characterized by four or more episodes of acute rhinosinusitis per year separated by at least 8 weeks of symptom-free intervals. *Subacute (persisting acute) rhinosinusitis* lasts between 3 weeks and 3 months. Chronic rhinosinusitis is a complex of symptoms associated with inflammation of the sinuses characterized by persistent symptoms of acute rhinosinusitis lasting longer than 3 months, a lack of response to treatment, and a positive imaging study.

**Secondary prevention:** attempts to block the expression of the disease, despite sensitization.

Short-acting beta2-agonists: a group of drugs that relax bronchial smooth muscle, resulting in bronchodilation usually within 5 to 10 minutes of administration. They are most effective medication for relieving acute bronchospasm, and are the therapy of

choice for relieving acute symptoms and preventing exercise-induced bronchospasm. Using more than two times per week, other than for prevention of exercise-induced asthma, is an indicator for initiating or increasing anti-inflammatory therapy. Increasing use indicates inadequate control of asthma and the need to intensify long-term control therapy.

**Specialists:** use of specialists in this document may include:

- ☐ Allergy/immunology specialists
- ☐ Dermatologists
- ☐ Infectious disease specialists
- ☐ Ophthalmologists
- ☐ Otolaryngologic allergy specialists
- ☐ Otolaryngologists
- ☐ Pulmonologists

**Spirometry (FEV1)** pulmonary measurements made with a spirometer to evaluate airway obstruction, and if so, whether it is reversible with a bronchodilator. It is mandatory to diagnose and characterize asthma severity.

**Targeted elimination diet:** an elimination diet with foods eliminated based on results from specific IgE tests (e.g. skin tests or *in vitro* tests) or from a suggestive history given by patient and/or parent.

**Tertiary prevention:** targets the control of factors that increase symptoms.

**Theophylline:** a drug with long-term control properties for asthma. It displays bronchodilation, respiratory stimulation, and may attenuate airway hyperactivity.

**Treating through:** continuing drug treatment in the presence of a suspected allergic reaction to the drug.

**Urticaria:** a skin disease that occurs in the dermis, is characterized by pruritic erythematous, and cutaneous elevations (e.i., “rash”) that blanch with pressure, indicating the presence of dilated blood vessels and edema in the dermis. Individual lesions last less than 24 hours. Acute urticaria is a self-limited disorder that usually lasts for a few days. Chronic urticaria lasts longer than 6 weeks.

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